

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Akira IGARASHI, et al.

SERIAL NO: New Application

GAU:

FILED: Herewith

EXAMINER:

FOR: CATALYSTS FOR WATER GAS SHIFT REACTION, METHOD FOR REMOVING CARBON MONOXIDE IN HYDROGEN GAS AND FUEL CELL GENERATION SYSTEM

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97**

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

**REFERENCES**

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**RELATED CASES**

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**CERTIFICATION**

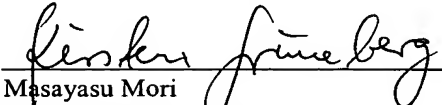
- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

**DEPOSIT ACCOUNT**

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Form PTO 1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY DOCKET NO.  
251790US90DIVSERIAL NO.  
New Application

## LIST OF REFERENCES CITED BY APPLICANT

APPLICANT  
Akira IGARASHI, et al.FILING DATE  
Herewith

GROUP

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	6,440,594	08/02	Kindler et al	429	13	
	AB	6,162,267	12/00	Priegnitz et al	429	17	
	AC	6,420,059	07/02	Surampudi et al	429	17	
	AD						
	AE						
	AF						
	AG						
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	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	2000-119004	04/25/00	Japan		
	AP	0 985 635	03/15/00	Europe (Corresponds to JP 2000-119004)		
	AQ	0 861 802	09/02/98	Europe		
	AR	50-84490	07/08/75	Japan (corresponds GB 1 491 499)		
	AS	1 491 499	11/09/77	Great Britain		
	AT	1 046 612	10/25/00	Europe		
	AU	911135	10/03/7	Canada		
	AV	911136	10/03/72	Canada		

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	<input type="checkbox"/> Additional References sheet(s) attached

Examiner

Date Considered

\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. <b>251790US90DIV</b>		SERIAL NO. <b>New Application</b>	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT <b>Akira IGARASHI, et al.</b>			
				FILING DATE <b>Herewith</b>		GROUP	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL	AA	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,702,838	12/30/97	Yasumoto et al			
	AB	5,962,366	10/99	Zhang	502	339	
	AC	6,177,381	01/01	Jensen et al	502	339	
	AD	5,030,440	07/91	Lywood et al	423	656	
	AE	6,069,288	05/00	OU et al	423	656	
	AF	2,848,377	08/58	Webb	502	334	
	AG	3,415,737	12/68	Kluksdahl	502	334	
	AH	5,759,950	06/98	Gui et al	502	334	
	AI	5,989,457	11/23/99	Seshan et al (Corresponds to CN 1121701)			
	AJ	6,468,480	10/02	Clawson et al	422	211	08/96
	AK	5,604,047	02/97	Bellows et al	429	17	
	AL	6,548,029	04/03	Towler et al	422	211	
	AM	6,299,994	10/01	Towler et al	429	17	
	AN	6,280,864	08/01	Towler et al	429	17	
<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AO	2000-302410	10/31/00	Japan (corresponds to EP 1 046 612 A1)			
	AP	EP 1 046 612 A1	10/25/00	Europe			
	AQ	EP 0 833 401	04/01/98	Europe			
	AR	KR1998-024908	07/06/98	Korea (w/English Abstract)			
	AS	DE-2057839	06/16/71	Germany (w/English Abstract) Corresponds to GB 1 332 349)			
	AT	GB 1 332 349	05/01/96	Great Britain			
	AU	CN 1121701	05/01/96	China (English Abstract) (Corresponds to US 5,989,457)			
	AV						
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
	AW						
	AX						
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	AZ					<input type="checkbox"/> Additional References sheet(s) attached	
Examiner					Date Considered		
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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 251790US		SERIAL NO. New Application	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Akira IGARASHI, et al.			
				FILING DATE Herewith		GROUP	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE	
	AA	6,007,700	12/28/99	ALARIO et al. (Corp. to WO97/00305)			
	AB	4,708,946	11/24/87	OHATA et al.			
	AC	5,271,916	12/21/93	VANDERBORGH et al.			
	AD	3,755,556	08/28/73	ALDRIDGE et al.			
	AE						
	AF						
	AG						
	AH						
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<b>FOREIGN PATENT DOCUMENTS</b>							
	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO			
	AO	WO 99/15460	04/01/99	WIPO	X		
	AP	WO 97/00305	01/03/97	WIPO (corp. To U.S. 6,007,700)	X		
	AQ	EP 0 361 648	04/04/90	EUROPE	X		
	AR						
	AS						
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
	AT	T. BUNLUESIN, et al., "STUDIES OF THE WATER-GAS-SHIFT REACTION ON CERIA-SUPPORTED Pt, Pd, and Rh: IMPLICATIONS FOR OXYGEN-STORAGE PROPERTIES", Applied Catalysts B: Environmental, Vol. 15 (1998), pp. 107-114, XP-002198475					
	AU	D. WOLF, et al., "KINETIC STUDY OF THE WATER-GAS-SHIFT REACTION AND ITS ROLE IN THE CONVERSION OF METHANE OF SYNGAS OVER A Pt/MgO CATALYST". Catalysis Today, (1998), pp. 147-156, XP-002198476					
	AV	Chiou-Hwang Lee, et al., "EFFECT OF BASIC ADDITIVES ON Pt/Al <sub>2</sub> O <sub>3</sub> FOR CO AND PROPYLENE OXIDATION UNDER OXYGEN-DEFICIENT CONDITIONS", Industriel & Engineering Chemistry Research, Vol. 36 (1997), pp. 1498-1506, XP-002198477					
	AW	E. XUE, et al., "WATER-GAS SHIFT CONVERSION USING A FEED WITH A LOW STEAM TO CARBON MONOXIDE RATIO AND CONTAINING SULPHUR", Catalysis Today, Vol. 30 (1996), pp. 107-118, XP-002198478					
	AX	B. J. WHITTINGTON, et al., "VEHICLE EXHAUST CATALYSIS: I. THE RELATIVE IMPORTANCE OF CATALYTIC OXIDATION, STEAM REFORMING AND WATER-GAS SHIFT REACTIONS", Catalysis Today, Vol. 26 (1995), pp. 41-45, XP-002198479					
	AY						
	AZ					<input type="checkbox"/> Additional References sheet(s) attached	
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